

**Water Quality Testing**

**Introduction:**

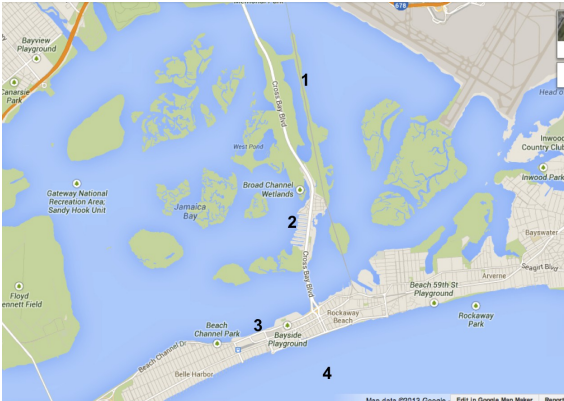
Recall that abiotic and biotic environmental conditions influence biodiversity. Water quality is important to aquatic organisms and these parameters may be biotic or abiotic. There are many tools for testing water quality parameters. Today we will work with indicator solutions and hydrometers to test our water samples. Your teacher has collected water samples from four locations in our area. Your job is to guess where each sample was collected based on your understanding of factors that influence water quality.

**Goals:**

At the end of this activity, you should be able to follow instructions on water quality testing kits to accurately mix chemicals and measure levels of ammonia, nitrite, nitrate, and pH. You will also be able to use a hydrometer to measure salinity. You will also begin to understand the factors that change water quality parameters.

**Locations:**

- 1= East Pond
- 2= Jamaica Bay (inner)
- 3= Jamaica Bay (Beach Channel)
- 4= Atlantic Ocean



**Hypotheses:**

a) Which location do you expect to have the highest salinity and why?

b) Which location do you expect to have the highest nitrate and why?

c) Which location do you expect to have the highest ammonia and why?

d) Which location do you think Sample A came from? \_\_\_ Sample B? \_\_\_ Sample C? \_\_\_ Sample D? \_\_\_

**Materials:**

water sample; hydrometer; water quality testing kit (be careful, the vials are fragile)

**Procedure:**

1. Youngest person in group will conduct salinity test.
2. Oldest person will organize chemicals and instruction cards.
3. Each individual will take a turn conducting one of the water quality tests.
4. Using the results, your new knowledge of aquatic biology, and your map, determine the origin of each water sample.

	Sample A	Sample B	Sample C	Sample D
Salinity				
pH				
Ammonia				
Nitrite				
Nitrate				
Now where do you think this sample came from? Why do you think so?				

**Summary question:**

Is there great enough variety in Rockaway's ecosystems to support biodiversity? How can we increase biodiversity in the Rockaways?

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